a generator electrically connected to the first motor such that the generator converts mechanical power into electrical power and supplies this electrical power to the first motor; and

an internal combustion engine mechanically connected to the generator such that the internal combustion engine supplies mechanical power to the generator.

B1 cont

3. (Amended) The drive system of claim 1, further comprising:

a second motor mechanically connected to a second wheel and electrically connected to the generator such that the second motor drives the rotation of the second wheel, wherein the second motor is a high-efficiency switched reluctance electric motor or a brush-less DC motor.

5. (Amended) The drive system of claim 1, wherein the internal combustion engine is run continually at the speed where it operates at maximum torque.

B2

6. (Amended) The drive system of claim 1, wherein during braking of the first wheel the motor will regenerate energy back through the motor to apply a braking force against the internal combustion engine.

10. (Amended) The drive system of claim 1, further comprising:

a power control module electrically connected to the generator, the power control module including a central computer and a generator control circuit, wherein the central computer is adapted to control the generator through the generator control circuit.

B3

11. (Amended) The drive circuit of claim 10, wherein the central computer is adapted to control the generator output by controlling electrical excitation of the generator through the generator control circuit.

12. (Amended) The drive circuit of claim 10, the generator including a generator rotor and a generator encoder placed to monitor the position of the generator rotor, wherein the generator encoder is adapted to send a generator signal to the power control module such that the power control module is operable to determine a level of excitation required in order to maintain the correct output level of the generator.

B3 Cont

13. (Amended) The drive circuit of claim 10, further comprising:

a speed set point signal representing a desired generator speed;

a generator speed signal representing the actual speed of the generator;

a resultant generator error signal representing the difference between the speed set point signal and the generator speed signal; and

a generator control signal;

wherein the central computer is adapted to subtract the generator speed signal from the speed set point signal to form the resultant generator error signal; and

wherein the central computer is further adapted to process the resultant generator error signal to create the generator control signal which is sent to the generator circuit to control excitation of the generator.

14. (Amended) The drive system of claim 1, further comprising:

a power control module including a central computer and a motor control circuit, wherein the central computer is adapted to control the motor through the motor control circuit.

15. (Amended) The drive system of claim 14, the motor including a motor rotor and a motor encoder placed to monitor the motor rotor, wherein the motor encoder is adapted to send a

motor signal to the power control module, and the power control module is adapted to monitor the motor signal to determine the level of excitation required in order to maintain the correct output level of the motor.

16. (Amended) The drive system of claim 14, further comprising:

a speed set point signal;

a motor speed signal;

a resultant motor error signal; and

a motor control signal;

wherein the central computer is adapted to subtract the motor speed signal from the speed set point signal to form the resultant motor error signal; and

wherein the central computer is further adapted to process the resultant motor error signal to create the motor control signal which is sent to the motor circuit to control the excitation of the motor.

17. (Amended) The drive system of claim 14, further comprising:

a speed set point signal, wherein the central computer is adapted to determine and compare the speed of the motor to the speed set point signal to determine if a speed correction is required to increase or decrease the power signal to that motor.

18. (Amended) The drive system of claim 17, wherein the central computer is adapted to control acceleration of the motor through increases in the speed set point signal.

19. (Amended) The drive system of claim 14, further comprising:

a current set point signal, wherein the central computer is adapted to determine and compare the current of the motor to the current set point signal to determine if a current correction is required to increase or decrease the power signal to the motor.

B3 Cont

20. (Amended) The drive system of claim 14, the power control module including:

a generator encoder adapted to provide a generator signal; and

a motor encoder adapted to provide a motor signal;

wherein the central computer is adapted to accept control signals from a steering input device; and

wherein the central computer is further adapted to control commutation of phase excitation in a generator stator winding and a motor stator winding through the generator signal and the motor signal.

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23. (Amended) The drive system of claim 1, further comprising:

an inverter module connected to the generator to provide external auxiliary power output.

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27. (Amended) The drive system of claim 23, wherein the external auxiliary power output from the inverter is not provided when the mower is moving.

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